

In the Claims

1. (CURRENTLY AMENDED) A method of extracting toner from toner cartridges, said method including the steps of:
 - . breaking up toner cartridges into pieces to release toner from within the cartridges;
 - passing the cartridge pieces over a sifting barrier so that only particles under a predetermined size pass through the barrier;
 - agitating the pieces to ~~mobilise~~ mobilize the toner;
 - extracting air from adjacent the pieces to remove airborne particles; and
 - removing toner from the air extracted from adjacent the pieces.
2. (CURRENTLY AMENDED) A The method according to claim 1 including the further step of recovering the toner for recycling.
3. (CURRENTLY AMENDED) A The method according to claim 1 ~~or claim 2~~ including the further step of introducing ~~ionised~~ ionized air adjacent the pieces.
4. (CURRENTLY AMENDED) A The method according to ~~any one of the preceding claims~~ claim 1 whereby agitating the pieces involves repeatedly lifting and dropping the pieces.
5. (CURRENTLY AMENDED) A The method according to ~~any one of the preceding claims~~ claim 1 whereby a trommel is used to agitate the pieces.
6. (CURRENTLY AMENDED) A The method according to claim 5 whereby the trommel includes an inner drum adapted to rotate about its longitudinal axis and an outer cover, the inner drum having a plurality of apertures and functioning as a separation screen so that only particles under a predetermined size pass through the screen and into the outer cover.
7. (CURRENTLY AMENDED) A The method according to claim 6 whereby air is extracted from within the outer cover to encourage particles under a predetermined size to pass through the apertures in the inner drum.

8. (CURRENTLY AMENDED) A The method according to ~~any one of the preceding claims~~claim 1 whereby the sifting barrier is a vibrating screen.

9. (CURRENTLY AMENDED) A The method according to claim 8 whereby the vibrating screen is substantially enclosed by a casing and air is extracted from the casing through the vibrating screen to encourage particles under a predetermined size to pass therethrough.

10. (CURRENTLY AMENDED) A The method according to claim 8 ~~or 9~~ whereby the vibrating screen slopes downwardly on an angle from the horizontal of between 5° and 20°, to encourage the pieces to move over the screen.

11. (CURRENTLY AMENDED) A The method according to ~~any one of the preceding claims~~claim 1 whereby the cartridges are broken up by a shredder.

12. (CURRENTLY AMENDED) A The method according claim 11 whereby the shredder employs twin rollers to break up the cartridges.

13. (CURRENTLY AMENDED) A The method according claim 12 whereby air is extracted from the shredder.

14. (CURRENTLY AMENDED) A The method according to ~~any one of the preceding claims~~claim 1 including the further step of filtering air extracted from adjacent the pieces to remove particles under a predetermined size.

15. (CURRENTLY AMENDED) A The method according to claim 14 whereby the air extracted from adjacent the pieces is passed though a classification column to separate toner powder from impurities.

16. (CURRENTLY AMENDED) ~~A~~ The method according to ~~any one of the preceding claims~~claim 1 including the further step of collecting the cartridge pieces for recycling.

17. (CURRENTLY AMENDED) ~~A~~ The method according to claim 16 including the further step of sorting the cartridge pieces into ferrous metals and non-metals/plastics.

18. (CURRENTLY AMENDED) An apparatus for extracting toner from toner cartridges including:

a shredder for breaking up toner cartridges into pieces and to thereby release toner from within the cartridges;

a sifting barrier for sifting the cartridge pieces so that only particles under a predetermined size pass through the barrier;

agitation means to agitate the pieces and ~~mobilise~~ mobilize the toner;

an extractor for extracting air from around the sifting barrier to remove airborne particles; and

a toner collector for removing toner from the air extracted by the extractor.

19. (CURRENTLY AMENDED) ~~An~~ The apparatus according to claim 18 including an ~~ioniser~~ionizer for introducing ~~ionised~~ionized air into the apparatus.

20. (CURRENTLY AMENDED) ~~An~~ The apparatus according to claim 18 ~~or claim 19~~ wherein the agitating means repeatedly lifts and drops the pieces.

21. (CURRENTLY AMENDED) ~~An~~ The apparatus according to ~~any one of claims~~claim 18 to 20 wherein the agitating means is a trommel.

22. (CURRENTLY AMENDED) ~~An~~ The apparatus according to claim 21 wherein the trommel includes an inner drum adapted to rotate about its longitudinal axis and an outer cover, the inner drum having a plurality of apertures and functioning as a separation screen so that only particles under a predetermined size pass through the screen and into the outer cover.

23. (CURRENTLY AMENDED) ~~An~~ The apparatus according to claim 22 wherein the extractor extracts air from within the outer cover to encourage particles under a predetermined size to pass through the apertures in the inner drum.

24. (CURRENTLY AMENDED) ~~An~~ The apparatus according to ~~any one of claims~~claim 18 ~~to 23~~ wherein the sifting barrier is a vibrating screen.

25. (CURRENTLY AMENDED) ~~An~~ The apparatus according to claim 24 wherein the vibrating screen is substantially enclosed by a casing and the extractor extracts air from the casing through the vibrating screen to encourage particles under a predetermined size to pass therethrough.

26. (CURRENTLY AMENDED) ~~An~~ The apparatus according to claim 24 ~~or 26~~ wherein the vibrating screen slopes downwardly on an angle from the horizontal of between 5° and 20°, to encourage the pieces to move over the screen.

27. (CURRENTLY AMENDED) ~~An~~ The apparatus according to ~~any one of claims~~claim 18 ~~to 26~~ wherein the shredder employs twin rollers to break up the cartridges.

28. (CURRENTLY AMENDED) ~~An~~ The apparatus according to claim 27 wherein the extractor extracts air from the shredder.

29. (CURRENTLY AMENDED) ~~An~~ The apparatus according to ~~any one of claims~~claim 18 ~~to 28~~ including a classification column to separate toner powder from impurities.

30. (CURRENTLY AMENDED) ~~An~~ The apparatus according to ~~any one of claims~~claim 18 ~~to 29~~ including the further step of collecting the cartridge pieces for recycling.

31. (CURRENTLY AMENDED) ~~An~~ The apparatus according to claim 30 including a magnetic separator for sorting the cartridge pieces into ferrous metals and non-metals/plastics.

32 (NEW) A method of extracting toner from toner cartridges, said method including the steps of:

- breaking up toner cartridges into pieces to release toner from within the cartridges;
- introducing ionized air adjacent the pieces;
- passing the cartridge pieces over a sifting barrier so that only particles under a predetermined size pass through the barrier;
- agitating the pieces to mobilize the toner;
- extracting air from adjacent the pieces to remove airborne particles; and
- removing toner from the air extracted from adjacent the pieces.

33. (NEW) An apparatus for extracting toner from toner cartridges including:
a shredder for breaking up toner cartridges into pieces and to thereby release toner from within the cartridges;

- an ionizer for introducing ionized air into the apparatus;
- a sifting barrier for sifting the cartridge pieces so that only particles under a predetermined size pass through the barrier;
- agitation means to agitate the pieces and mobilize the toner;
- an extractor for extracting air from around the sifting barrier to remove airborne particles; and
- a toner collector for removing toner from the air extracted by the extractor.